Cicrealli notes in the form of ppt

Introduction to Applied Psychology (K.R. Mangalam University)

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PERSONALITY

John Gabrieli

9.00

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Personality

1. Definition - What is it?
2. Personality Factors
3. Traits, States, Contexts
4. Brain Correlates of Personality

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INDIVIDUALITY

Every person is in certain respects:

- **Like all other persons,**
- **Like some other persons,**
- **Like no other person.**

adapted from Kluckhohn & Murray, 1948

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Personality

A set of behavioral, emotional, and cognitive tendencies that people display *over time* and *across situations* and that *distinguish individuals from one another*.

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Personality

A set of behavioral, emotional, and cognitive tendencies that people display *over time* and *across situations* and that *distinguish individuals from one another*.

- **TRAITS (constant, continuum)**
- **STATES (temporary)**
- **SITUATIONS (contexts)**

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Personality

- **18,000 terms for personality**

affable, agreeable, amiable, amicable, congenial, convivial, cordial, friendly, genial, sociable, welcoming

- ***trait theory - manageable set of personality dimensions***

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Personality

How can we measure?

- **Interview**
- **Observation**
- **Inventory/Questionnaire**

    Factor Analysis

    Big Five Personality Dimensions

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Factor Analysis

- **analyze patterns of correlation to extract factors that underlie the correlations**

- ***carefree, compliant, dependable, hard-working, kind, rude, trusting*** **on a 1-5 scale (social desirability concern)**

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Hypothetical matrix of correlations among adjectives used as personality self-descriptions

Self-Description	Compliant	Dependable	Hard-Working	Kind	Rude	Trusting
Carefree	-.11	-.60	-.43	+.01	+.21	+.17
Compliant	–	+.29	+.13	+.39	-.70	+.53
Dependable		–	+.49	+.19	-.13	+.17
Hard-Working			–	+.08	-.11	+.09
Kind				–	-.65	+.55
Rude					–	-.48
Trusting						–

Chart showing possible correlations among adjectives used to describe personality in oneself.

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Factor Analysis

- analyze patterns of correlation to extract factors that underlie the correlations - independent factors

- label the factor (dimension)

"conscientiousness"

carefree, dependable, hard-working

"agreeableness"

compliant, kind, rude

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Costa and McCrae's (1992) NEO PI-R Facets

	Big Five Dimensions	Facet (and correlated trait adjective)
O	Openness versus closedness to experience	Ideas (curious) Fantasy (imaginative) Aesthetics (artistic) Actions (wide interests) Feelings (excitable) Values (unconventional)
C	Conscientiousness versus lack of direction	Competence (efficient) Order (organized) Dutifulness (not careless) Achievment striving (thorough) Self-discipline (not lazy) Deliberation (not impulsive)
E	Extraversion versus introversion	Gregariousness (sociable) Assertiveness (forceful) Activity (energetic) Excitement-seeking (adventurous) Warmth (outgoing)
A	Agreeableness versus antagonism	Trust (forgiving) Straightforwardness (not demanding) Altruism (warm) Compliance (not stubborn) Modesty (not show-off) Tender-mindedness (sympathetic)
N	Neuroticism versus emotional stability	Anxiety (tense) Angry hostility (irritable) Depression (not contented) Self-consciousness (shy) Impulsiveness (moody) Vulnerability (not self-confident)

Courtesy of Elsevier, Inc., http://www.sciencedirect.com. This document is available for use with the Source: Costa, P., and R. McCrae. "Four Ways Five Factors Are Basic." *Personality and Individual Differences* 13, no. 6 (1992): 653-65.

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The Big Five Inventory (BFI)

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others*? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

1. Disagree strongly
2. Disagree a little
3. Neither agree nor disagree
4. Agree a little
5. Agree strongly

I See Myself as Someone Who…

__1. Is talkative
__2. Tends to find fault with others
__3. Does a thorough job
__4. Is depressed, blue
__5. Is original, comes up with new ideas
__6. Is reserved
__7. Is helpful and unselfish with others
__8. Can be somewhat careless
__9. Is relaxed, handles stress well
__10. Is curious about many different things
__11. Is full of energy
__12. Starts quarrels with others
__13. Is a reliable worker
__14. Can be tense
__15. Is ingenious, a deep thinker
__16. Generates a lot of enthusiasm
__17. Has a forgiving nature
__18. Tends to be disorganized
__19. Worries a lot
__20. Has an active imagination
__21. Tends to be quiet
__22. Is generally trusting
__23. Tends to be lazy
__24. Is emotionally stable, not easily upset
__25. Is inventive
__26. Has an assertive personality
__27. Can be cold and aloof
__28. Perseveres until the task is finished
__29. Can be moody
__30. Values artistic, aesthetic experiences
__31. Is sometimes shy, inhibited
__32. Is considerate and kind to almost everyone
__33. Does things efficiently
__34. Remains calm in tense situations
__35. Prefers work that is routine
__36. Is outgoing, sociable
__37. Is sometimes rude to others
__38. Makes plans and follows through with them
__39. Gets nervous easily
__40. Likes to reflect, play with ideas
__41. Has few artistic interests
__42. Likes to cooperate with others
__43. Is easily distracted
__44. Is sophisticated in art, music, or literature

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Please check: Did you write a number in front of each statement?

BFI scale scoring ("R" denotes reverse scored items):

Extraversion: 1, 6R, 11, 16, 21R, 26, 31R, 36; Agreeableness: 2R, 7, 12R, 17, 22, 27R, 32, 37R, 42; Conscientiousness: 3, 8R, 13, 18R, 23R, 28, 33, 38, 43R; Neuroticism: 4, 9R, 14, 19, 24R, 29, 34R, 39; Openness: 5, 10, 15, 20, 25, 30, 35R, 40, 41R, 44

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The Big Five Inventory (BFI)

Conscientiousness

I See Myself as Someone Who…

__1. Is talkative
__2. Tends to find fault with others
__3. Does a thorough job
__4. Is depressed, blue
__5. Is original, comes up with new ideas
__6. Is reserved
__7. Is helpful and unselfish with others
__8. Can be somewhat careless
__9. Is relaxed, handles stress well
__10. Is curious about many different things
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Measures of Personality

- are they stable across life?

- do they predict behaviors and outcomes?

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Measures of Personality

- correlated .50 to .70 across 30 or 40 years (height & sex correlate .40)

- increases with age (7-year periods)

  childhood - .31

  young adulthood - .54

  age 30 - .64

  age 50-70 - .74

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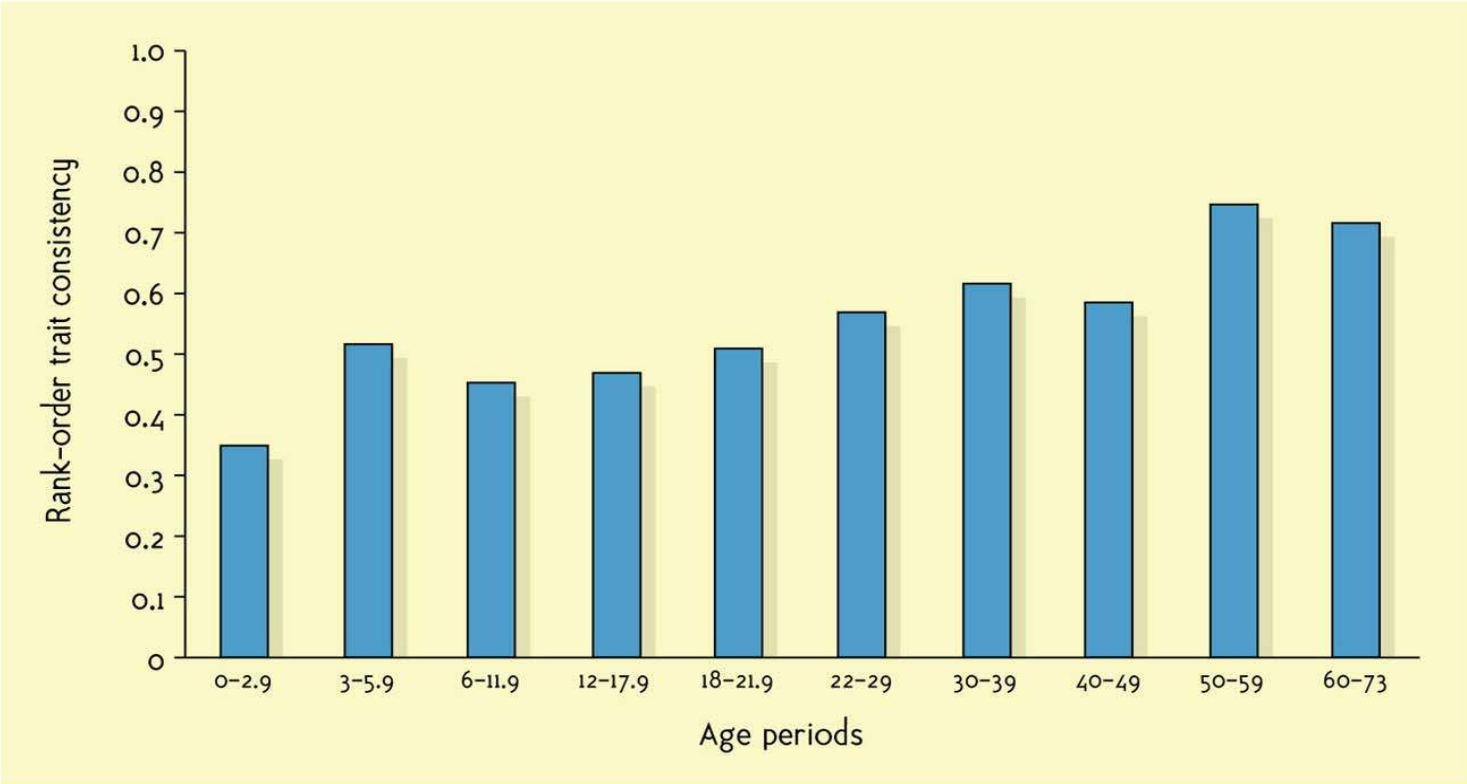
Traits remain stable over time (and become more stable with time)



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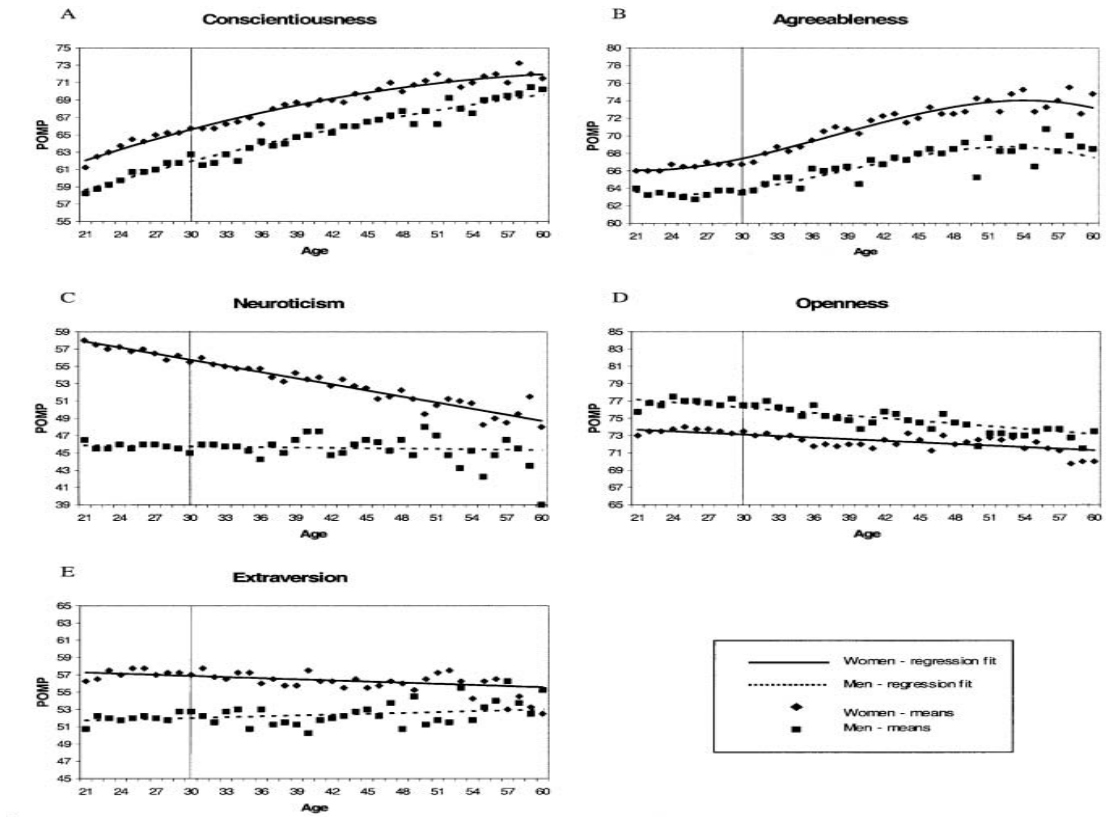
STABILITY OF PERSONALITY SCORES



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Average Big Five scores vary somewhat with age and sex. This graph depicts the mean score for men and women on each of the Big Five traits as a function of age. The results are derived from a sample of 132,515 adults, aged 21-60, who completed a version of the Big Five Personality Inventory that was posted on the Internet. Other studies, using more systematically chosen samples, have shown similar results. (Adapted from Srivastava & others, 2003, p. 1047)

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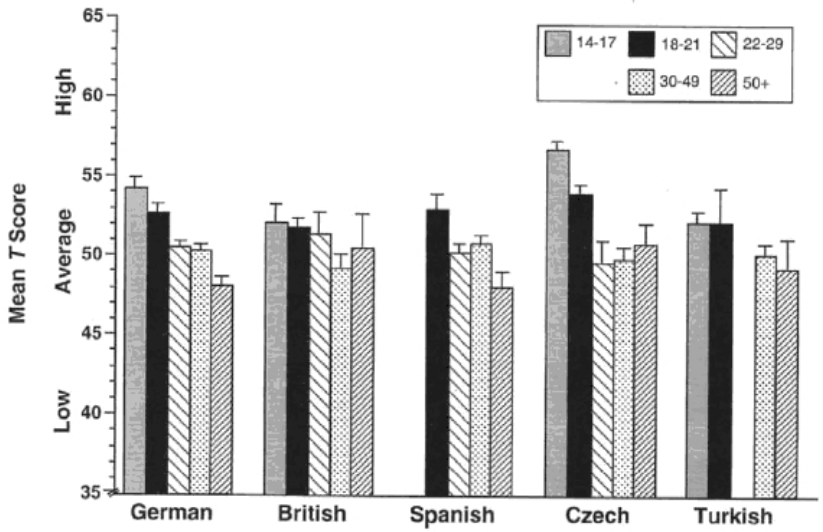

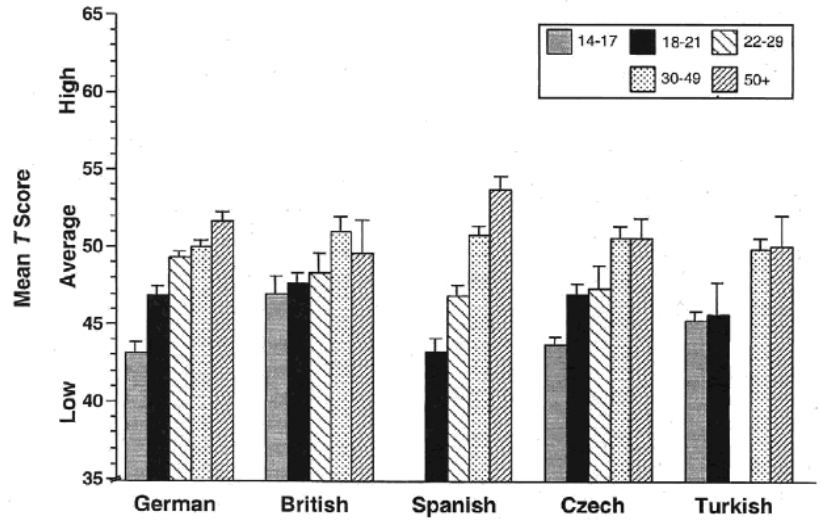

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Measures of Personality

- **high *neuroticism***

  - pay more attention to threat in environment

  - more stress when given surprise math test

  - higher divorce rate

  - more susceptible to depression and anxiety

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Measures of Personality

- high *extraversion*
  - attend more parties, more popular
  - identified as leaders in college
  - live with and work with more people
  - less disturbed by sudden loud sounds or intense stimuli

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Measures of Personality

- high *agreeableness*
  - more willing to lend money
  - higher school grades in childhood
  - fewer arrests as adults

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Measures of Personality

- high *openness to experience*
  - more likely to major in humanities
  - change careers in midlife
  - perform better in job training programs
  - play a musical instrument

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Measures of Personality

- **high *conscientiousness***
  - **more sexually faithful to spouses**
  - **higher job ratings**
  - **smoke less, drink less, drive more safely, live longer, less risk for Alzheimer's disease (89% less)**
  - **play a musical instrument**

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Personality

NATURE (genetics)

NURTURE (environment)

- **Twin Studies**
  - **monzygotic vs. dizygotic twins**
  - **reared together vs. reared apart**

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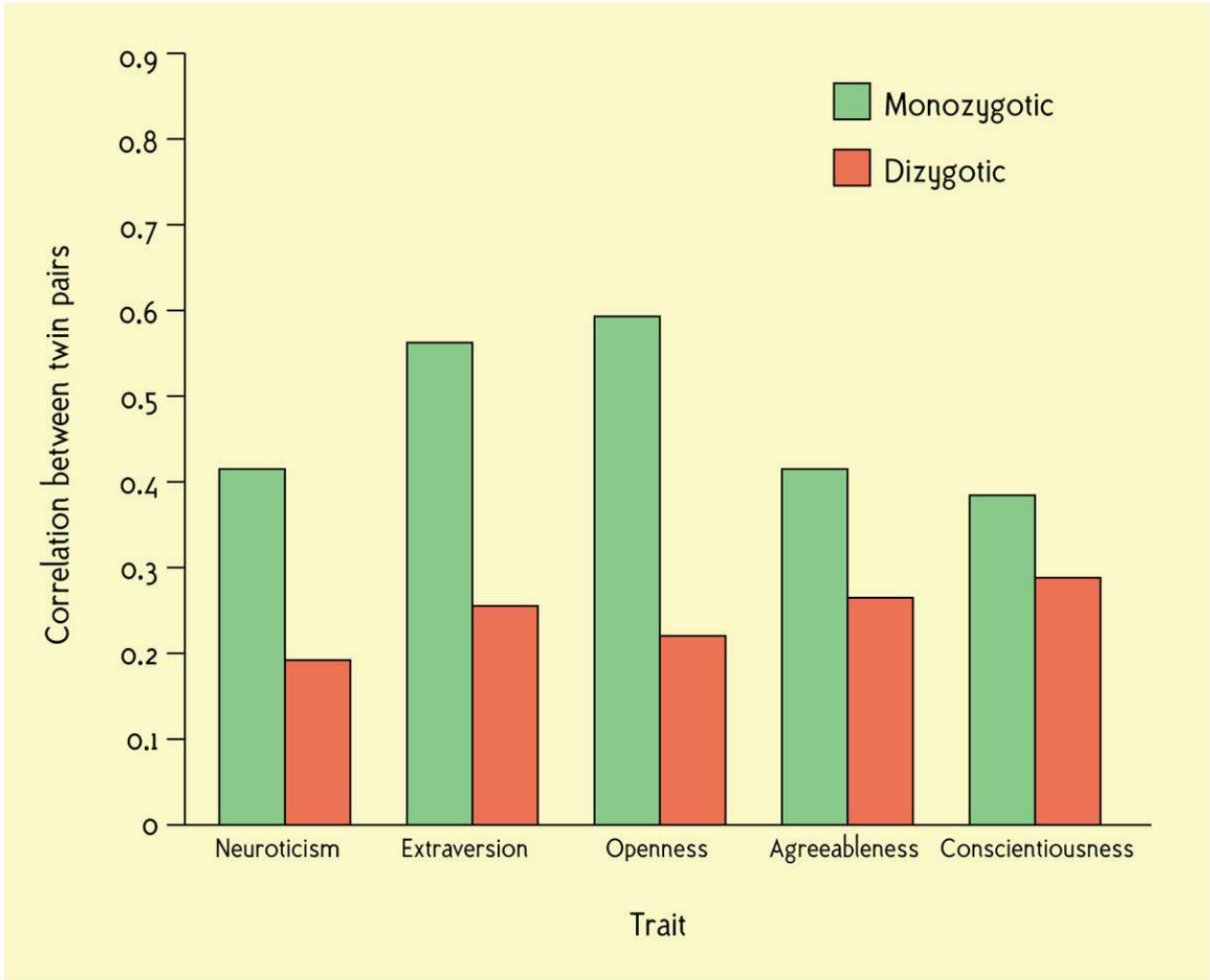
Personality is (partly) rooted in genetics: Twin studies



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Personality

GENETICS

Twin Studies-Specific Behaviors

time spent watching television

number of childhood accidents

tendency for marriage and divorce

religious attitudes

work/leisure interest (.50)

happiness (.50)

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Personality

NATURE (genetics)

NURTURE (environment)

- **Twin Studies**
  - **monzygotic vs. dizygotic**
  - **reared together vs. reared apart (same)**

- **environmental factors - parents?**

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PERSONALITY

- **identical twins reared apart - both very neat**

“My mother. When I was growing up she always kept the house perfectly ordered… I learned from her. What else could I do?”

“The reason is quite simple. I’m reacting to my mother, who was a complete slob.”

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Personality

- **biological, non-twin siblings were far more similar to one another than adoptive siblings *(genetics?)***
- **for personality, children no more similar to adoptive sibling than two randomly selected children**
  - **family plays little or no role?**
  - **does personality fix the environment? sibling contrast? split-parent identification?**

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PERSONALITY PSYCHOLOGY vs. SOCIAL PSYCHOLOGY

Why do we do things?

Who we are (personality)

Situation we are in (social context)

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Personality

- **SITUATIONS**

Mischel & Peake - 1982 -

***conscientiousness* - 19 behaviors -**

making bed, attend class, complete assignments, neat class notes - consistent with situations, not across situations - *situationism*

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Variation of Verbal Aggression Across Situations

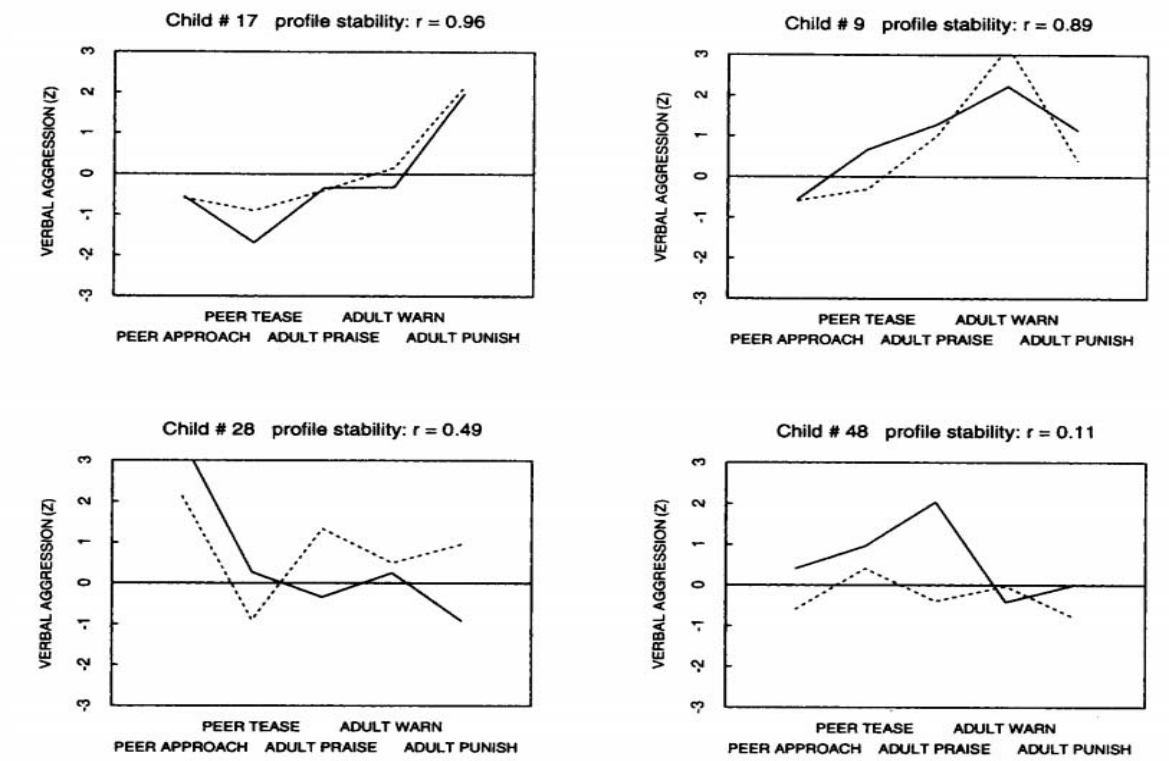
Child # 17 profile stability: r = 0.96
Child # 9 profile stability: r = 0.89
Child # 28 profile stability: r = 0.49
Child # 48 profile stability: r = 0.11
VERBAL AGGRESSION (Z)
PEER TEASE
ADULT WARN
PEER APPROACH
ADULT PRAISE
ADULT PUNISH

Figure 1. Illustrative intraindividual profiles of verbal aggression across five types of psychological situations. The two lines indicate the profiles based on two different, nonoverlapping samples of occasions in which the child encountered each type of psychological situation, shown as Time 1 (solid) and Time 2 (broken).

Situation-specific profiles of verbal aggression for two children. Shoda, Mischel, and Wright (1994) recorded various categories of behaviors among emotionally disturbed children in various social situations at a summer camp. Shown here are results concerning verbal aggressiveness for two children. Zero on the *y* axis represents the average aggressiveness for all the children observed. In overall verbal aggressiveness, these two children were similar, but they were very different with respect to the situations that elicited their aggression.

Courtesy of American Psychological Association. Used with permission. Source: Shoda, Y., et al. "Intraindividual Stability in the Organization and Patterning of Behavior: Incorporating Psychological Situations into the Idiographic Analysis of Personality." *Journal of Personality and Social Psychology* 67, no. 4 (1994): 674-87.

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Personality

Temperament **- innate, biologically based propensity to engage in a certain style of behavior**

broader than traits - observable

- **activity level**
- **emotionality**
- **sociability**

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Personality

Temperament - SHYNESS

- some babies (6 weeks) more reactive to environmental stimuli - fussy - 15-20%
- “high-reactive” or “inhibited” babies (vs. “low reactive”) - more crying, distress, motor activity, faster heart rates, higher levels of cortisol
- faster heart rate in womb more likely to be reactive - sympathetic nervous system easily aroused, seek less arousing situation, inhibited

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Personality

***Temperament* - SHYNESS**

- **Signs of inhibition at 2 months or 4 months predict shyness in later childhood and adulthood**
- **25% however are inhibited as infants but not shy in later childhood**

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Personality

- over 1,000 children born in a year categorized as “well adjusted” or “inhibited” or “undercontrolled” at age 3
- 97% examined at age 21

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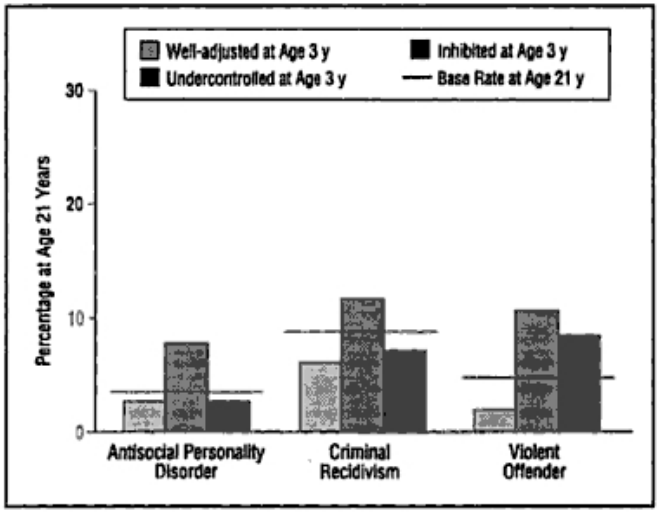

Figure 2. The association between behavior styles at age 3 years and adult criminal behavior.

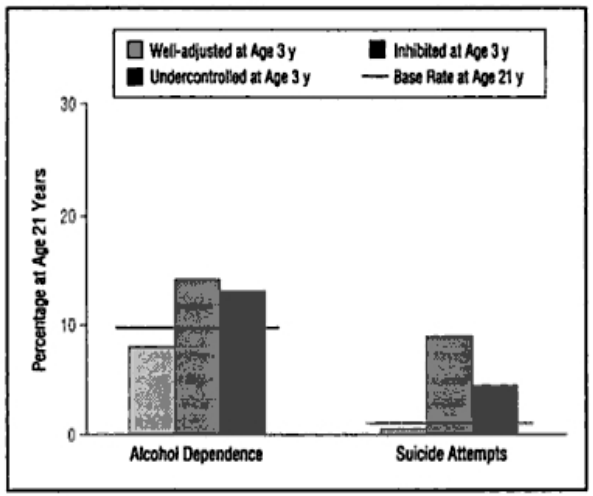

Figure 3. The association between behavior styles at age 3 years and adult alcohol dependence and suicide attempts.

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Personality

Temperament - SENSATION SEEKING

- pursuit of novel, high-stimulation situations
- diving, fast driving, drug/alcohol use, flame e-mails, punk music, driving accidents
- lower levels of MAO-B in blood, may allow dopamine to last longer at synapse

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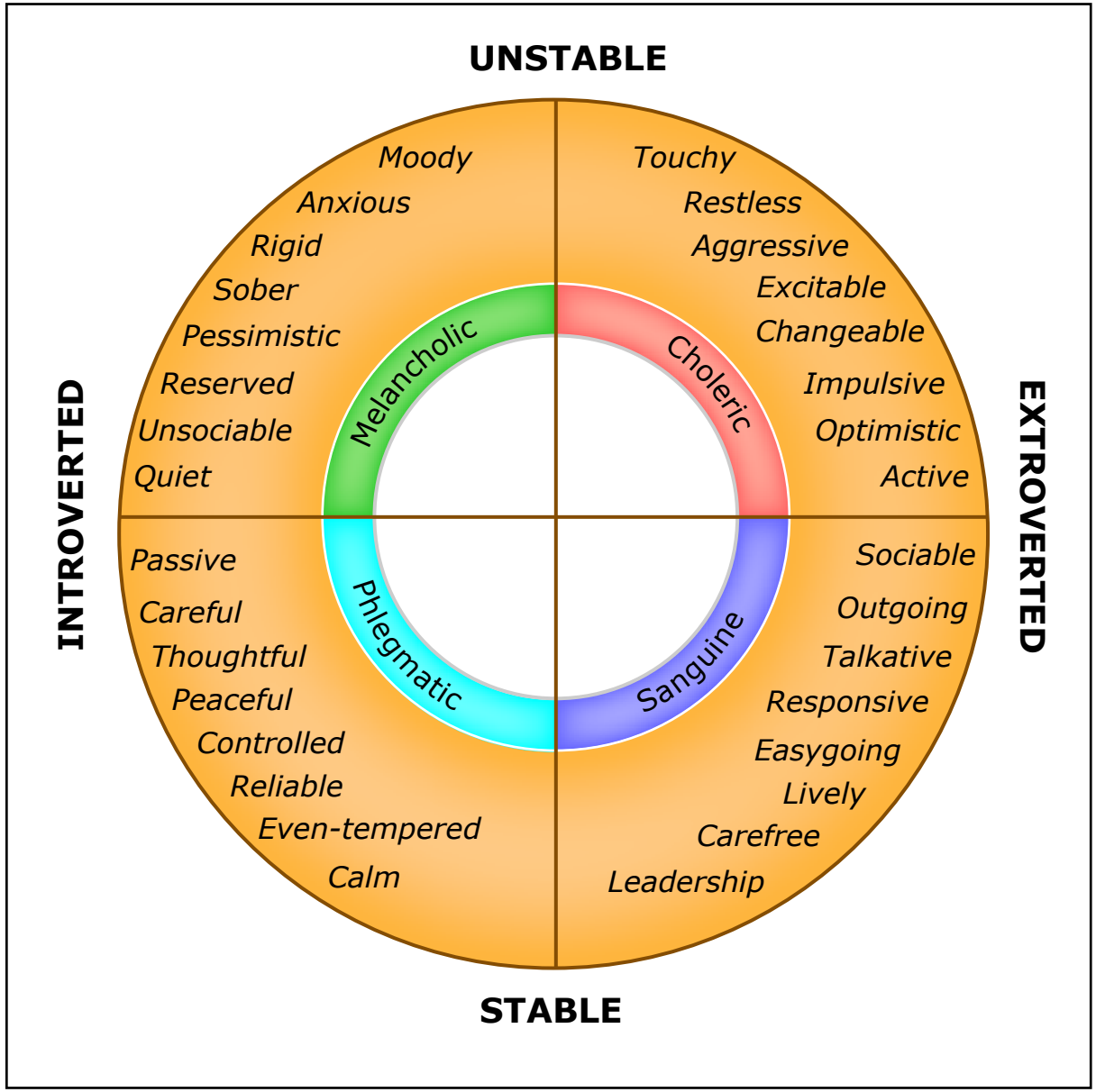

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Personality

Eyesenck

Extraversion/Introversion

- **extraverts less easily aroused, seek stimulation**
- **introverts already aroused, seek quiet**
- **optimal level of arousal**
- **extraverts do better in a noisy settings**
- **introverts more sensitive to pain, salivate more to lemon juice**

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Personality

- **SITUATION/PERSONALITY INTERACTIONS**

Introversion/extraversion

Time of day (am or pm)

Caffeine (or not)

Take a test - if introvert, drink coffee in pm

If extravert - drink coffee in am

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Personality

Introversion/extraversion

Time of day

Caffeine - increases arousal

Introverts more aroused in am, less in pm

Extraverts more aroused in pm, less in am

Take a test - if introvert, drink coffee in pm

If extravert - drink coffee in am

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The Yerkes-Dodson Law

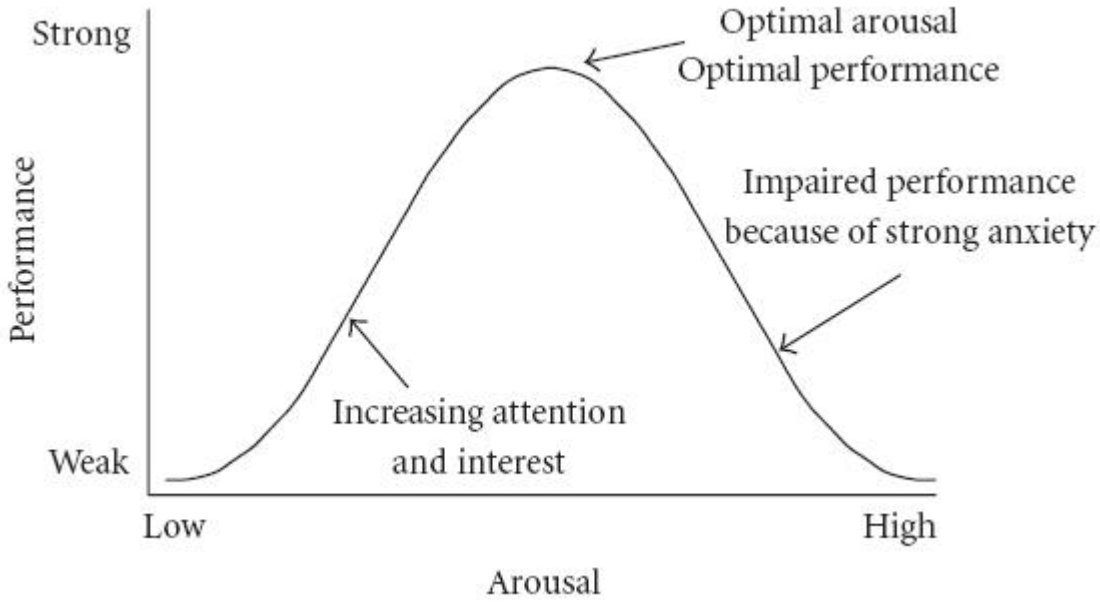

Image is Figure 3 from Diamond D. M., et al. "The Temporal Dynamics Model of Emotional Memory Processing: A Synthesis on the Neurobiological Basis of Stress-Induced Amnesia, Flashbulb and Traumatic Memories, and the Yerkes-Dodson Law." *Neural Plasticity* 33 (2007). dx.doi.org/10.1155/2007/60803.

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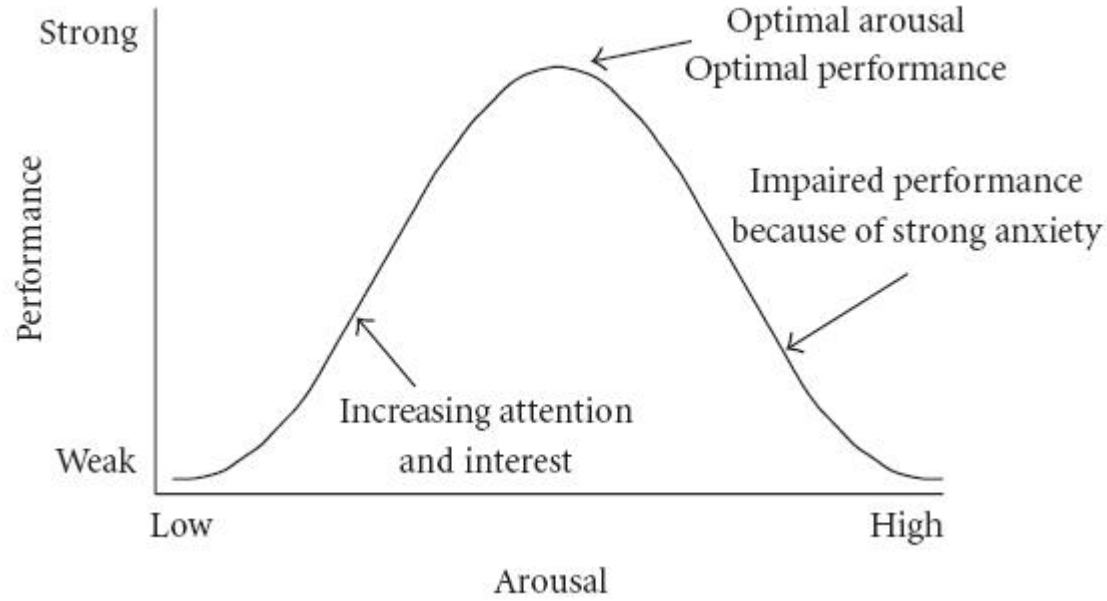
The Yerkes-Dodson Law



extravert **roverts**

Image is Figure 3 from Diamond D. M., et al. "The Temporal Dynamics Model of Emotional Memory Processing: A Synthesis on the Neurobiological Basis of Stress-Induced Amnesia, Flashbulb and Traumatic Memories, and the Yerkes-Dodson Law." *Neural Plasticity* 33 (2007). dx.doi.org/10.1155/2007/60803.

Take a test - if introvert, drink coffee in pm

If extravert - drink coffee in am

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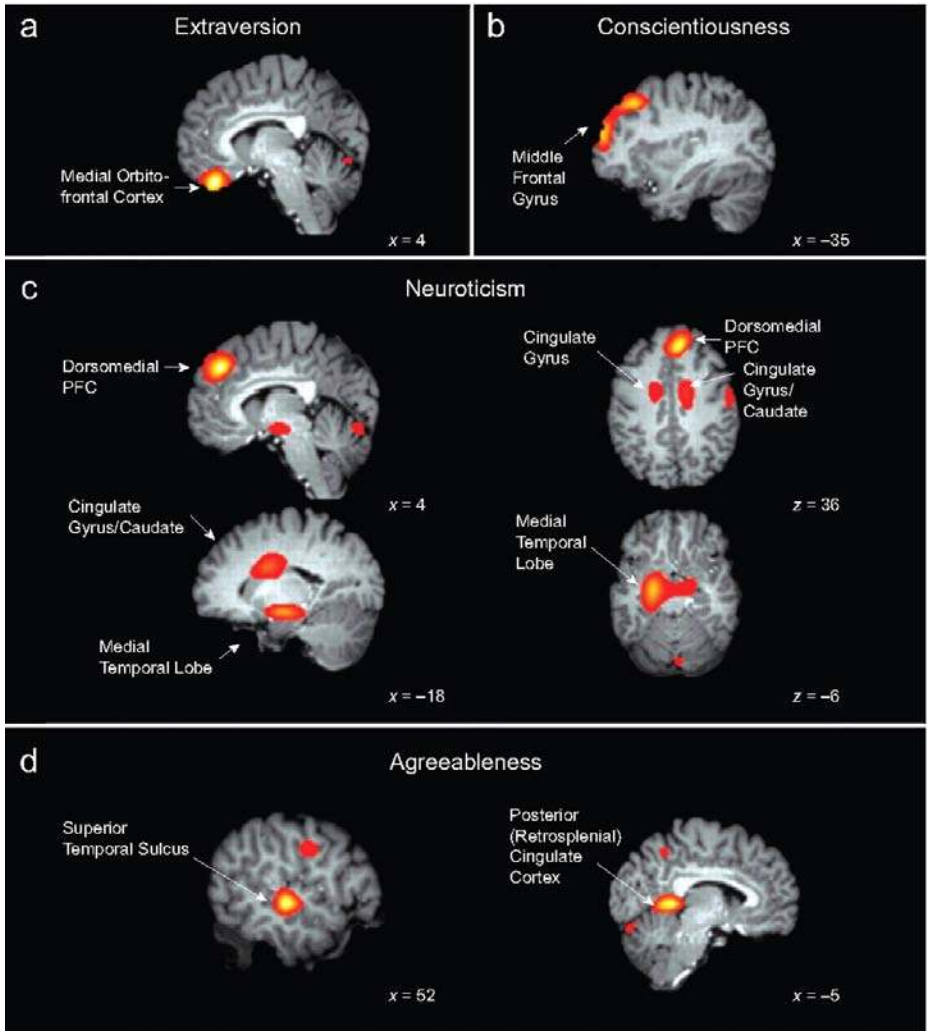
Brain regions in which local volume was significantly associated with (a) Extraversion, (b) Conscientiousness, (c) Neuroticism, and (d) Agreeableness



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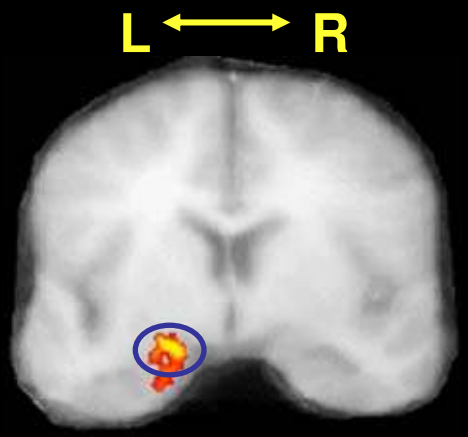
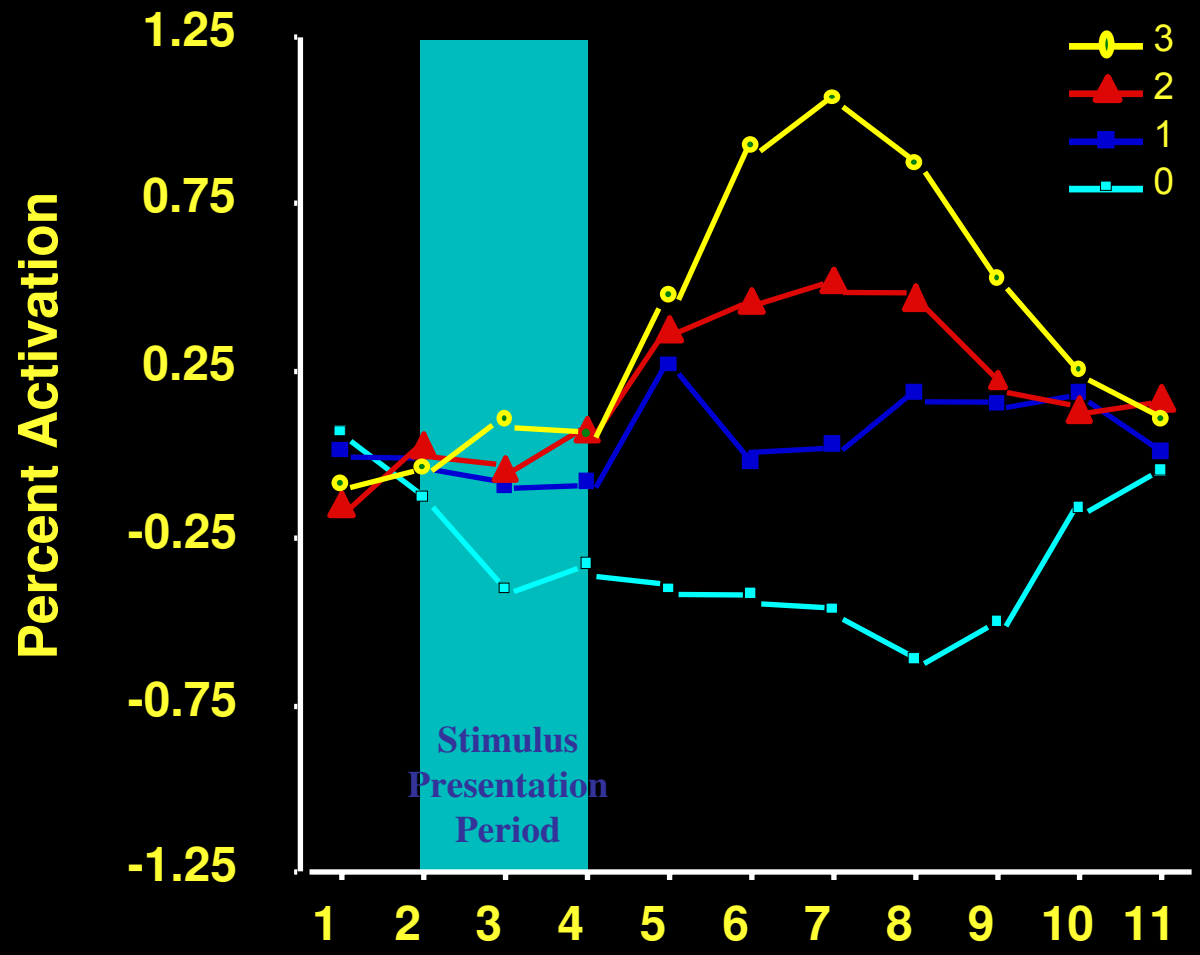
Emotional Experience





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Extraversion as a Fundamental Dimension Of Human Personality

Introvert	Extravert
reserved	sociable
quiet	talkative
aloof	affectionate
task-oriented	person-oriented
serious	fun-loving

- Report more Positive Experiences
- Susceptible to Positive Mood Induction

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Experimental Design

1 scan = 5 cycles

1 cycle = 4 negative, 4 positive pictures

1 picture displayed for 7.5 seconds each

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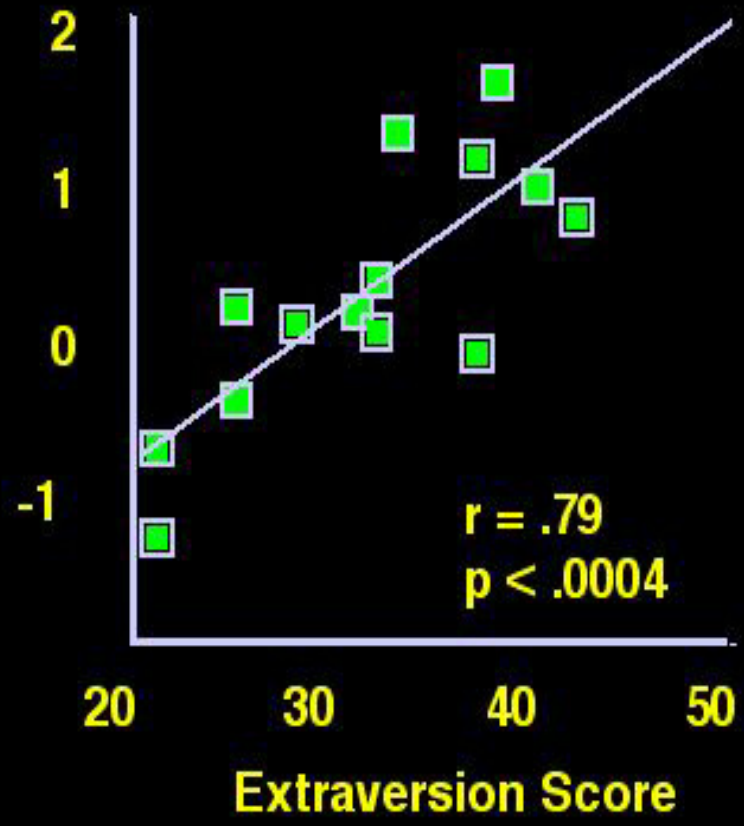
Amygdala Reactivity to Positive Pictures Correlates with Extraversion

Greater Activation to Positive Pictures

Greater Activation to Negative Pictures



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Experimental Design

... 10 x

Fear	Neutral	Sad	Scrambled	Angry	Happy

... 3 x

1 Scan = 3 Cycles

1 Cycle = 6 Emotion Conditions, 10pics

1 Picture displayed for 3 sec each

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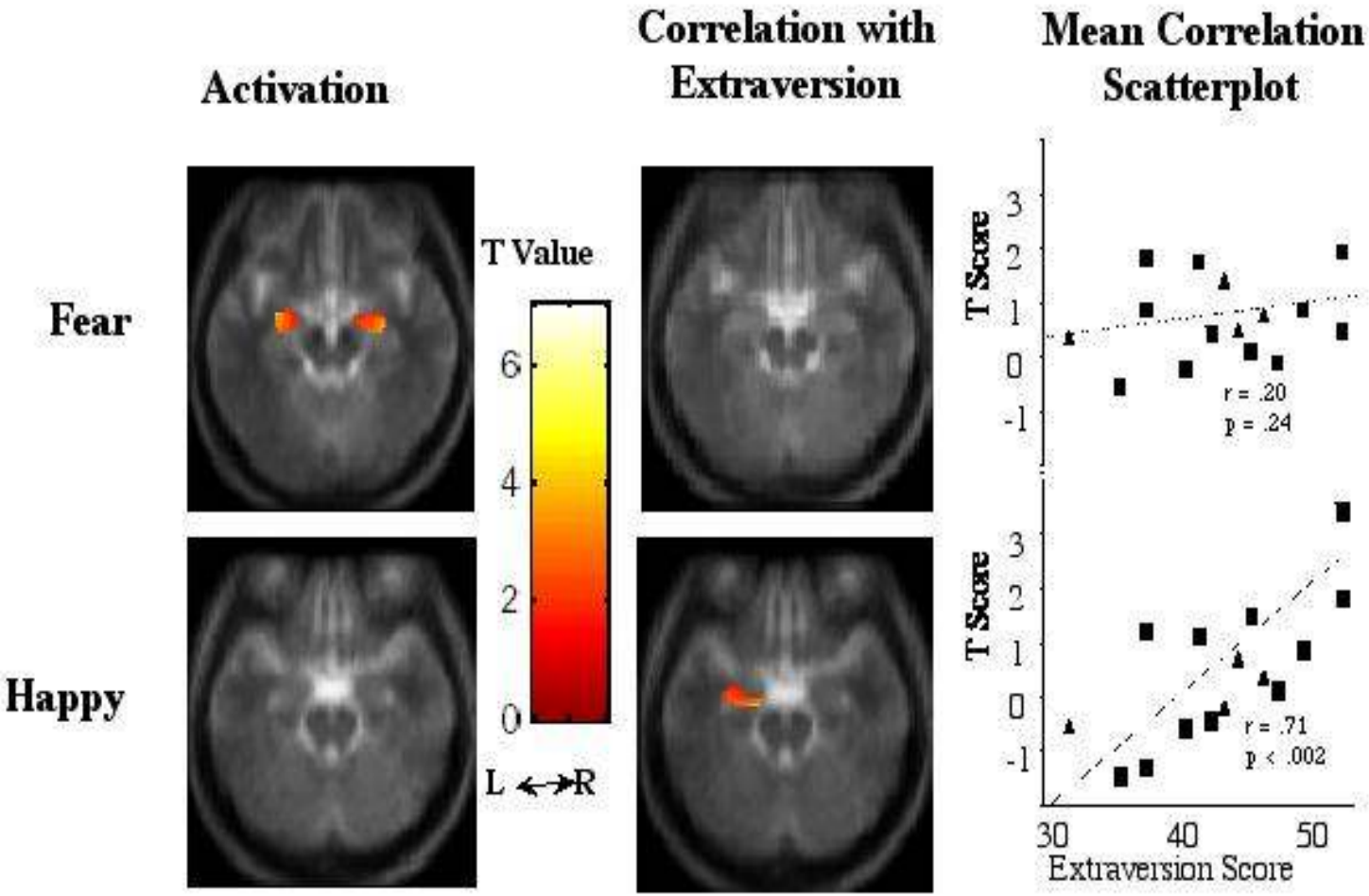

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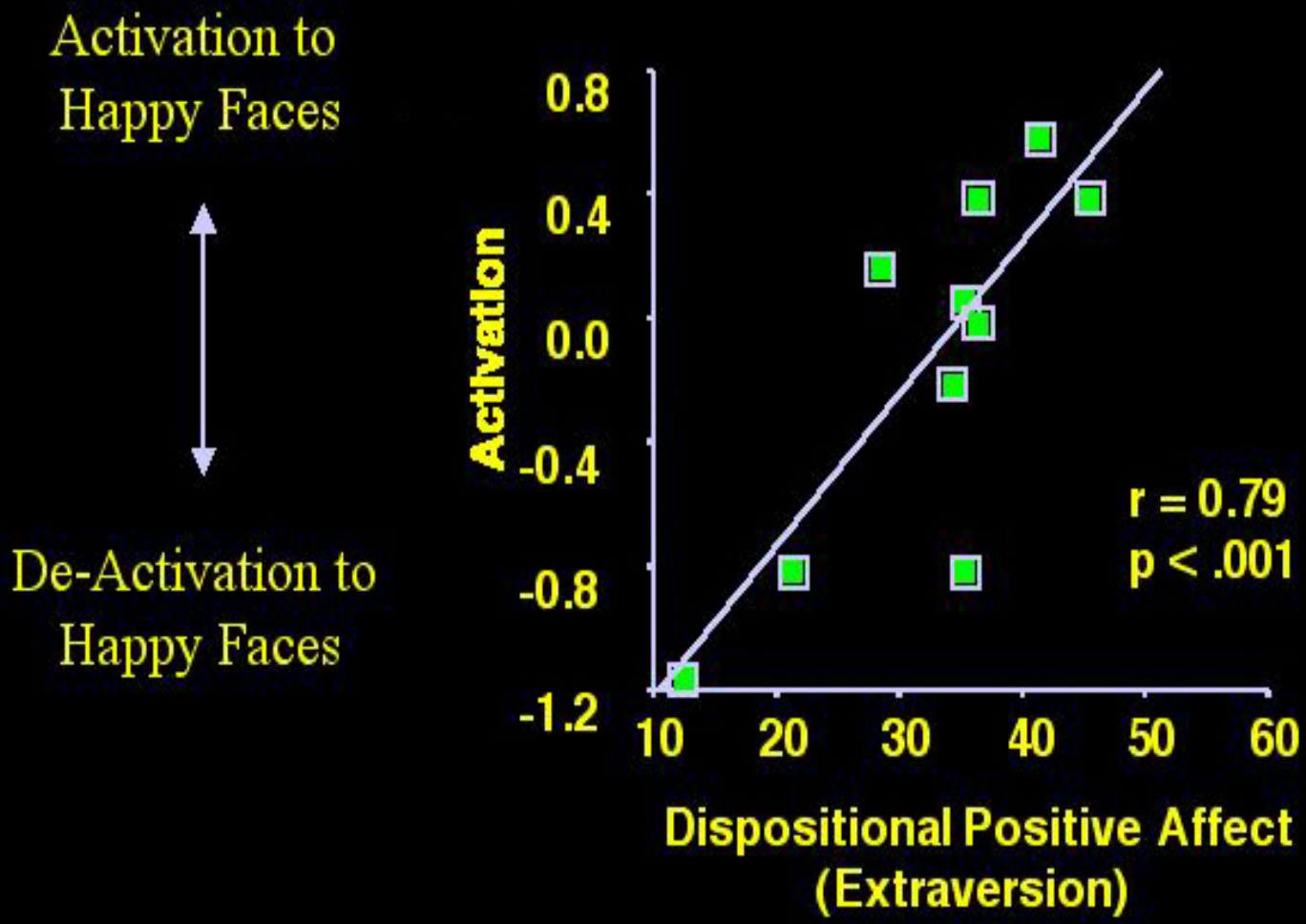
Amygdala Reactivity to Happy Faces Correlates with Extraversion



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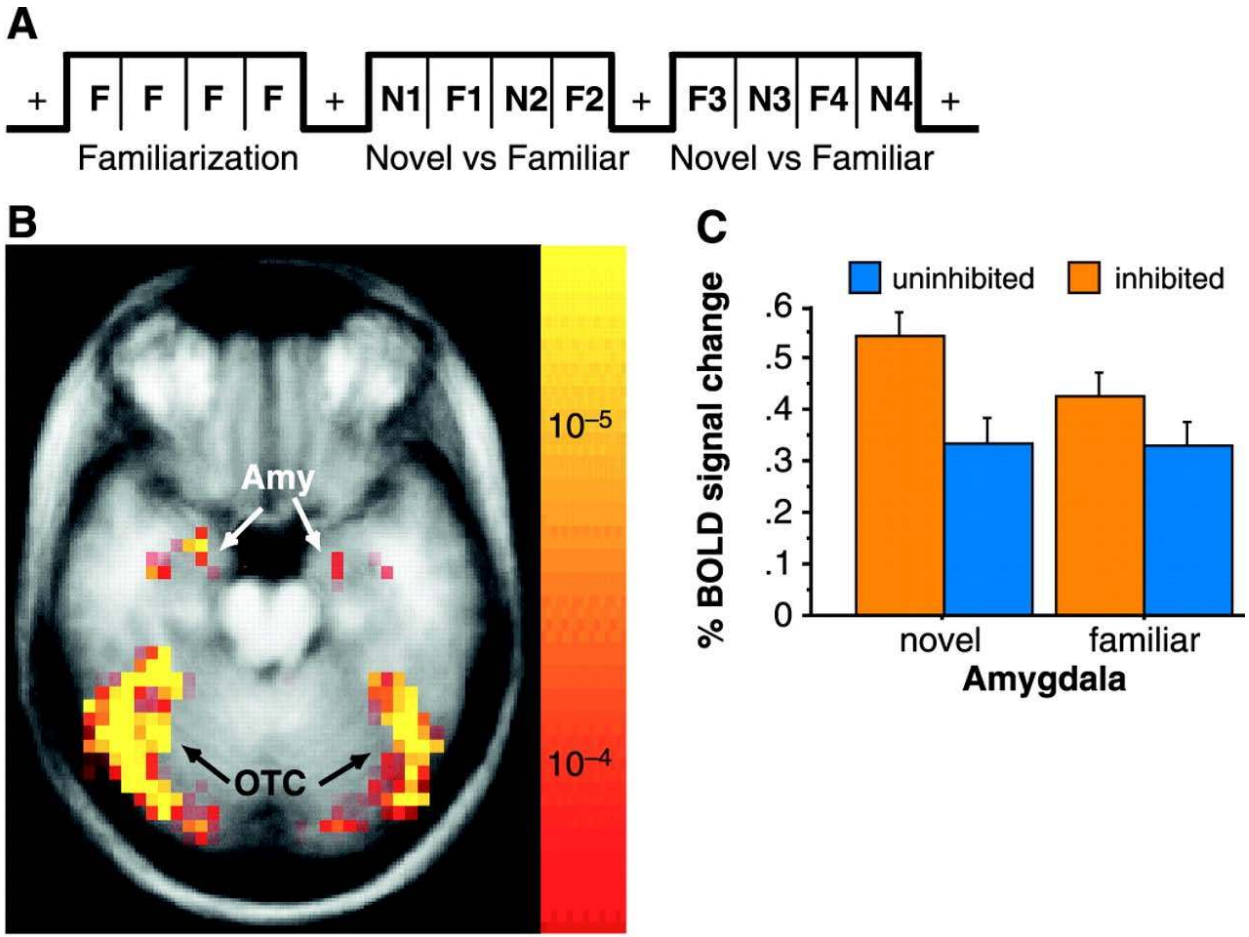
Inhibited and uninhibited infants “grow up”: Adult amygdalar response to novelty



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Spielberger State and Trait Anxiety

Example

The **S-Anxiety scale** consists of twenty statements that evaluate how respondents feel "right now, at this moment."

1	2	3	4
Not At All	**Somewhat**	**Moderately So**	**Very Much So**

A.	**I feel at ease**	**1**	**2**	**3**	**4**
B.	**I feel upset**	**1**	**2**	**3**	**4**

The **T-Anxiety** scale consists of twenty statements that assess how respondents feel "generally."

1	2	3	4
Almost Never	**Sometimes**	**Often**	**Almost Always**

A.	**I am a steady person**	**1**	**2**	**3**	**4**
B.	**I lack self-confidence**	**1**	**2**	**3**	**4**

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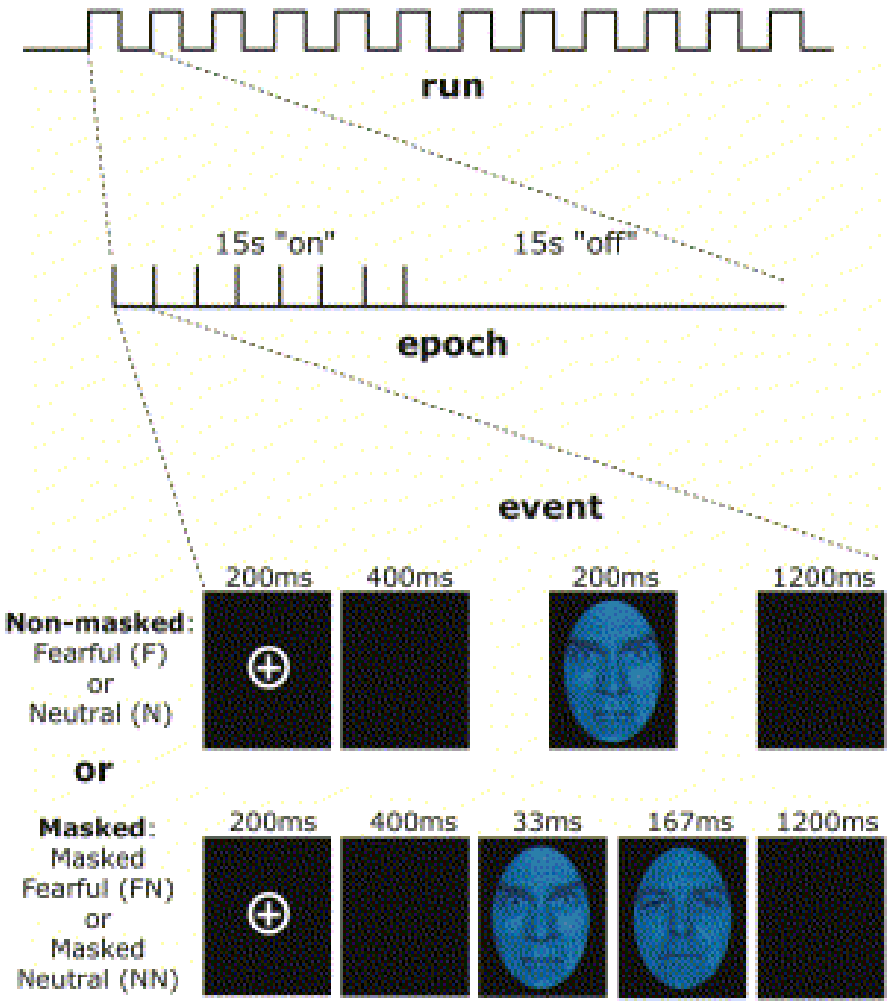
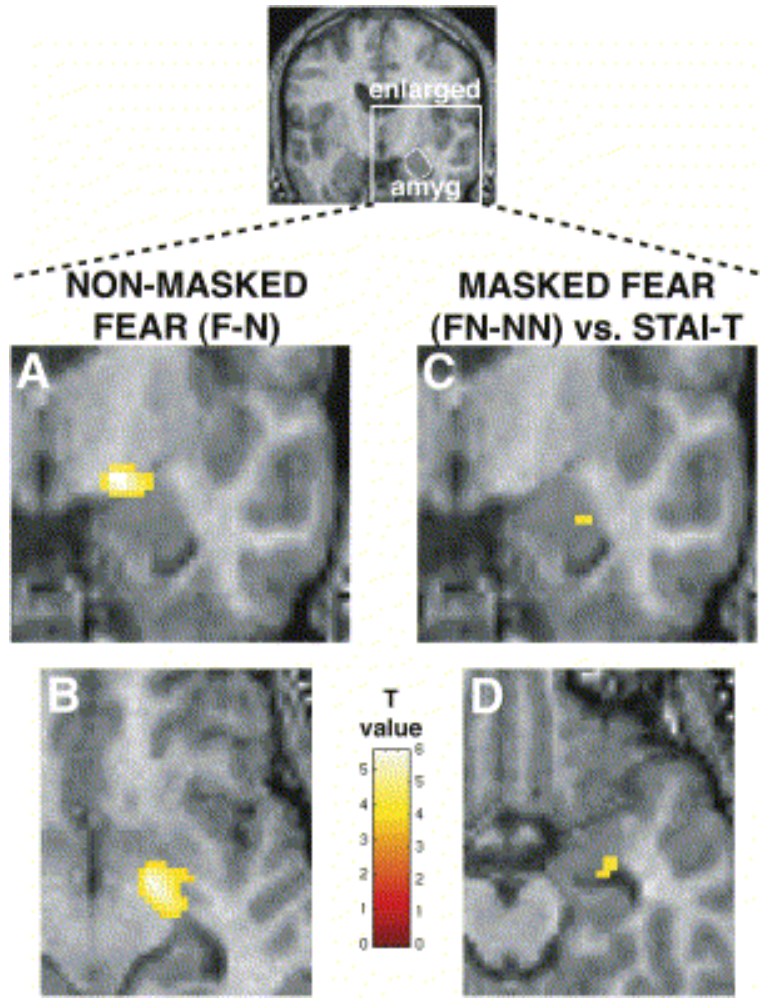
Individual differences in trait anxiety predict the response of the basolateral amygdala to unconsciously processed fearful faces





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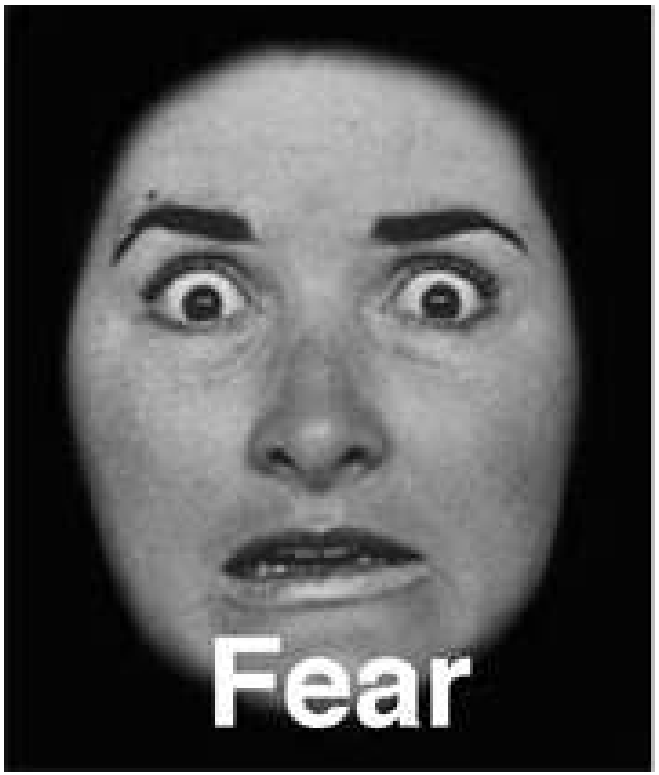
Human amygdala: Impaired recognition of fear



- Intact face recognition
- Impairment selective for fear

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Source: Susskind, J., et al. "Expressing Fear Enhances Sensory Acquisition."
Nature Neuroscience 11, no. 7 (2008): 843-50. © 2008.

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Genetics & fMRI

SNPs - single nucleotide polymorphisms

- **DNA sequence variation of a single nucleotide**
  adenine (A), thymine (T), cytosine (C), guanine (G)
- **at least 1% of the population**
- **make up 90% of human genetic variation**
- **constant from generation to generation**

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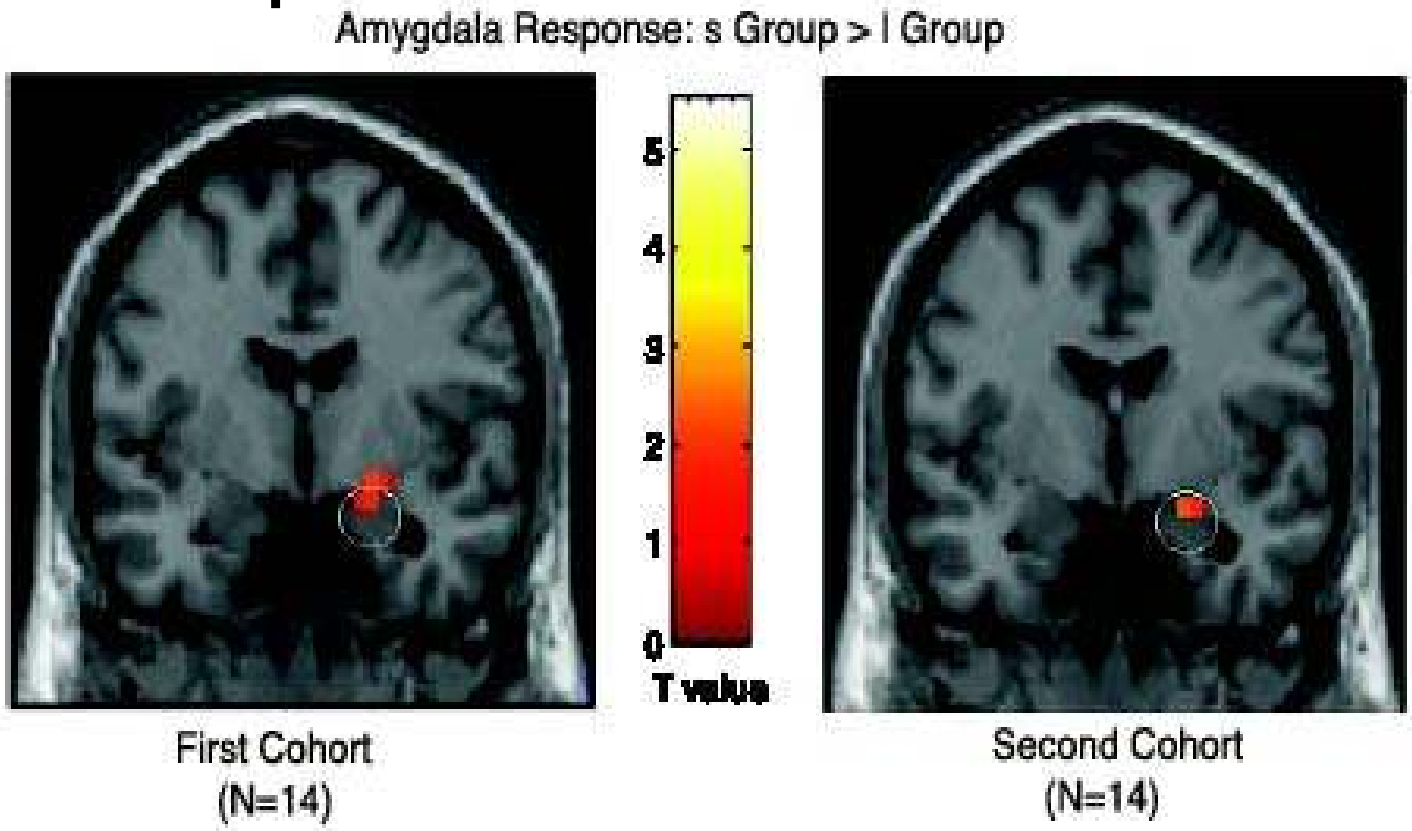
Genetic Variation in Amygdala Response

(Hariri et al., 2002)

- Short vs. long allele in variable repeat sequence of promoter region of serotonin transport gene
- Short allele associated with anxiety traits
- Greater response to fearful faces in short allele



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GENE X EXPERIENCE INTERACTION

- Caspi, 2003
- polymorphism of 5-HTT gene
- stressful life events (ages 21-26; job, money, housing, health, relationships)
- childhood maltreatment (ages 3-11)
- short version of allele - more depression and suicidality in response to stressful events than those homozygous for long allele (not always replicated)

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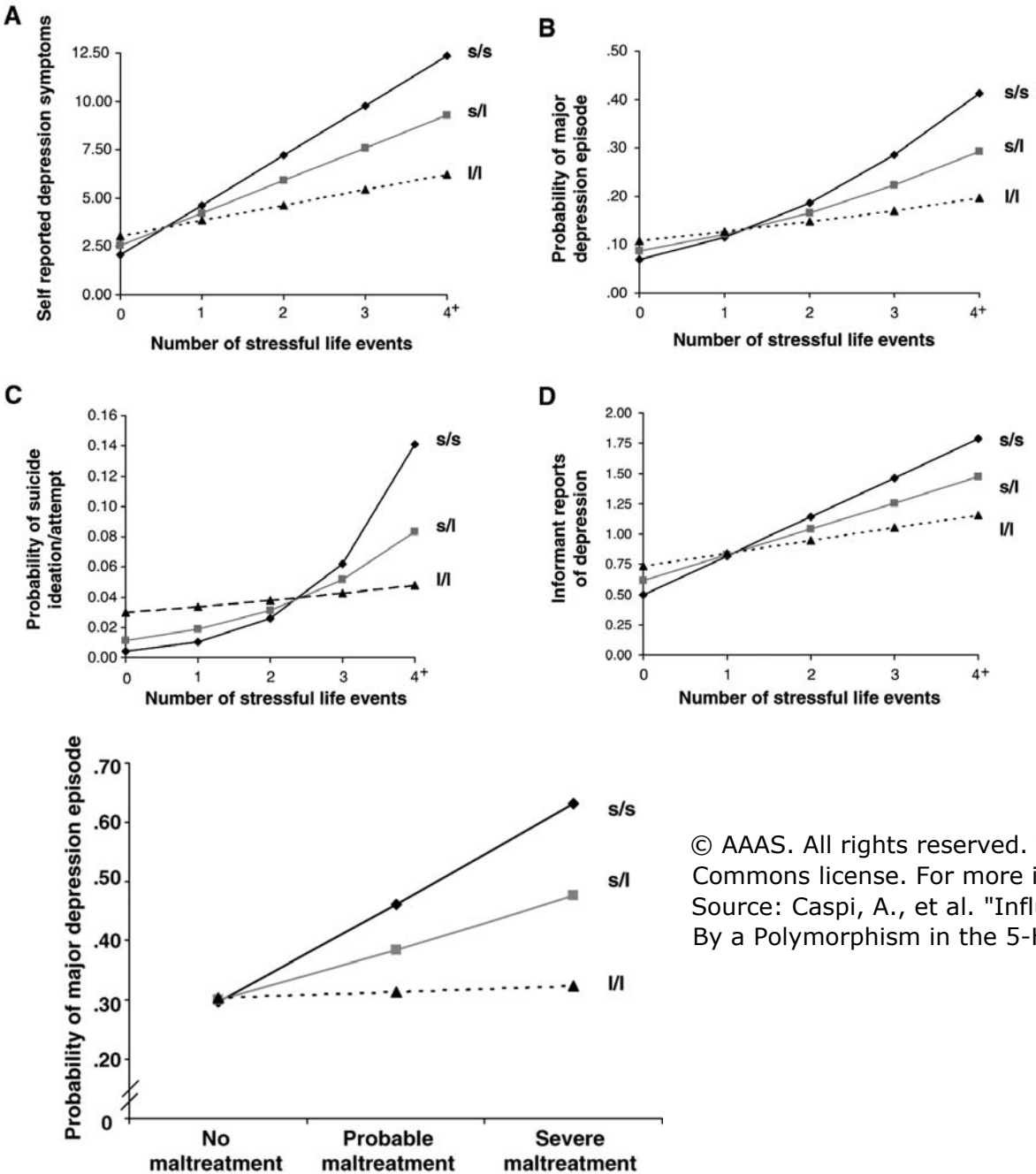

Alleles

s/s

s/l

l/l

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Source: Caspi, A., et al. "Influence of Life Stress on Depression: Moderation By a Polymorphism in the 5-HTT Gene." *Science* 301, no. 5631 (2003): 386-89.

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EXAM 2

- 70 points
- range 68-34
- mean = 56.5

Rough grade distribution

A = 68 - 57

B = 56 - 50

C = 49 - 34

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